Gelsenwasser - Cost advantage drinking water Pipes

Case:	Cost advantage for drinking water pipes
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Period:	2017 ongoing
Country/region:	Germany
Network owner:	Gelsenwasser AG
Engineer/Installer:	Gelsenwasser AG
Pipe producer:	various Producers

Gelsenwasser AG showed a cost model for savings in installation when using PE 100. The water supplier makes use of coiled bundles for alternative for installations like drag-in, burst lining, ploughing minimizing the number of connections. Welding of PE 100 pipes is easier than welding of steel. In comparison with ductile iron, welded connections of PE 100 do not need counter bearings. Further cost savings towards metals are realised since no extra protection against corrosion has to be applied as it is necessary for steel. In case of open trench installation the width of trench can be reduced partly to 0,4 m.

Up to OD 225 mm rehabilitation of pipelines takes place by a share of 30% leading to cost savings of 30 -50 % in comparison to conventional laying.

The project has been realized with PE 100 and PE 100RC on pipes up to 225 mm. PE 100 is used in order to replace steel and ductile iron.

Advantages of PE 100 are that the material is corrosion free, has a low weight and can be delivered in uninterrupted lengths in coils. The amortization time based on 100 years utilization makes PE 100 more cost effective than traditional materials.

Disadvantage is that PE 100 is less cost efficient for diameters greater than 225 mm.

Apart from this a further benefit is that due to the low weight less energy is needed for transportation. Moreover, installation with PE 100 pipes has a lower impact on surroundings during works. For the network owner a lower failure rate in operation is a further positive aspect for PE 100 pipes.

Relining of steel pipe